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National Collegiate Athletic Association head coaches' satisfaction with athletic training services.

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National Collegiate Athletic Association Head Coaches' Satisfaction with Athletic Training Services

by

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ABSTRACT

Athletic trainers and coaches have a significant amount of interaction regarding the care of an athlete. This communication and cooperation is necessary to providing effective care. The purpose of this study was to determine the level of satisfaction that head coaches have with those providing athletic training services across all three NCAA Divisions. Overall satisfaction and four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) were examined. A total of 40 head coaches from NCAA Division I, II, and III schools participated in the study. The instrument used was originally developed by Beer (2004) and was modified to fit the current research question. The survey consisted of 45 items including demographic questions and Likert-type satisfaction statements. Survey packets were distributed at a coaches meeting, and were collected upon completion. Results showed that there were no differences for overall satisfaction scores ($p \geq 0.05$) or the four satisfaction category scores among NCAA Division (all ps ≥ 0.05). Communication scores were significantly higher when comparing scores of head coaches of teams assigned a certified athletic to scores of teams not assigned an athletic trainer ($p = .034$). Coaches who had a full-time athletic trainer reported significantly higher scores for satisfaction in athletic trainer knowledge/ability than coaches assigned a graduate assistant ($p = .004$). Coaches of male teams reported significantly higher satisfaction scores for professionalism ($p = .042$) and overall satisfaction ($p = .041$) than coaches of female teams. These findings indicate that athletic trainers are providing a high quality of service regardless of competitive level and that certain dimensions of satisfaction appear more important depending on different

factors. Future research should include more institutions and employ qualitative research techniques to analyze satisfaction.

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CHAPTER 1

Introduction

According to the National Athletic Training Association (NATA) website, athletic trainers are characterized as allied health care professionals who prevent, evaluate, diagnose, treat, and rehabilitate injuries (www.nata.org, 2014). Athletic trainers work in various settings, including colleges, secondary schools, clinics, and industrial settings (Albohm & Wilkerson, 1999). Given the breadth of both duties and work environments, it is essential to identify the qualities and competencies that define the successful athletic trainer.

The role delineation study conducted by the Board of Certification (2010) identified tasks and skills that are essential to being a successful athletic trainer. To ensure that these skills are taught, the NATA developed the Athletic Training Educational Competencies (2011). Along with this knowledge, certain personal characteristics that allow successful athletic trainers to excel have been identified. These include self-confidence, maturity, and interpersonal skills (Kahanov & Andrews, 2011).

Coaches have a significant amount of interaction with athletic trainers regarding the care of an athlete (Mensch, Crews, & Mitchell, 2005). This communication and cooperation is vital to providing stability and effective care to the athlete (Adams, Mazerolle, Casa, Huggins, & Burton, 2014). Overall, the relationship between coaches and athletic trainers has been reported as both professional and respectful (Adams et al., 2014).

Overall satisfaction with athletic trainers has been consistently rated high by athletes. In a study by Campbell (n.d.) and referenced on the NATA website, athletic

trainers were rated a 3.89 out of a 5 point scale, with 0 being the least satisfied and 4 being the most, and the services that were provided were rated a 3.87. The literature on coaches' satisfaction with athletic training services, however, is very limited. The only previous study regarding coaches' satisfaction and athletic training services, an unpublished thesis conducted by Beer (2004), showed that 88.9% of coaches at one school within one National Collegiate Athletic Association (NCAA) division would choose to stay with the athletic trainer they were assigned if given the option to change. Overall, there is a lack of research on the coaches' satisfaction with athletic training services across all three NCAA divisions.

Statement of the Problem

Certified athletic trainers are responsible for the health care of intercollegiate athletes at a variety of levels. To be successful, athletic trainers must have a working relationship with head coaches. Research has been conducted on student-athlete satisfaction with athletic training services; however, the research on coaches' satisfaction with athletic training services is limited. A better understanding of the head coach – athletic trainer dynamic can allow for improvement in the relationship, and possibly an improvement in the perception of the field of athletic training.

Purpose

The purpose of this study was to determine the level of satisfaction that head coaches have with those providing athletic training services. Differences in satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) were examined, as well as differences in overall satisfaction among the three NCAA divisions.

Hypotheses

1. Division I head coaches will rate overall services highest, followed by Division II, with the Division III coaches rating overall services lowest.
2. It is hypothesized that higher satisfaction in communication will exist in Division I compared to Divisions II and III.
3. The greatest differences seen among the three divisions will be in accessibility, with Division I receiving the highest satisfaction scores, and Division III receiving the lowest.
4. There will be no difference in satisfaction scores for knowledge/ability among the three divisions.
5. There will be no difference in satisfaction scores for professionalism among the three divisions.

Delimitations

1. All head coaches surveyed from each division will be from the same institution.
2. Head coaches will only be evaluating the athletic training services provided at their current institution.
3. A single instrument will be used to measure head coaches satisfaction.

Limitations

1. The survey used has not been tested for validity and reliability.
2. The number of head coaches that complete the survey.
3. Head coaches' awareness of the breadth of athletic training services.

Assumptions

1. Participants have had enough interaction with a certified athletic trainer to be able to respond fairly.
2. Participants will answer honestly.
3. Participants understand the role of the athletic trainer.
4. The survey used accurately captures the dimensions of satisfaction with athletic training services.

Significance of Study

The goal of this study was to gain a better understanding of the satisfaction that head coaches report with athletic training services. This study is different from previous investigations in that it focused on the head coach and not the student-athlete. The results of this study can provide athletic trainers with the information needed to better relationships with head coaches. The survey also allows head coaches to provide feedback, acknowledge concerns, and offer input about the athletic training services that are provided. This information can ultimately be used to better the care of the student-athletes.

Definition of Terms

Certified Athletic Trainer (ATC)	*"Health care professional that provides preventative services, emergency care, clinical diagnosis, therapeutic intervention and rehabilitation of injuries and medical conditions. The credential ATC signifies that the individual has passed a national certification exam through the Board of Certification" (Athletic Training).*
Satisfaction	*An affective response resulting from the customer's comparison of product performance to some preconceived standard (Oliver, 1989)*

CHAPTER 2

Review of Literature

This chapter will discuss the extant literature regarding NCAA coaches and satisfaction with athletic training services. A better understanding of this satisfaction may allow for an improvement in both the services provided and the relationship between coaching and athletic training staff. This review of literature consists of three sections: (1) role of the certified athletic trainer; (2) relationship between head coaches and athletic trainers; and (3) satisfaction with athletic training services. A summary of research will be provided at the end of the literature review.

Role of the Certified Athletic Trainer

Certified athletic trainers provide a wide variety of services, and thus, the knowledge required to be a successful athletic trainer is vast. Recently, athletic training has emerged as a recognized allied health profession, and is beginning to gain the respect of the general public (Hazelbaker, 2013). The Board of Certification (BOC) conducted a role delineation/practice analysis in order to identify the tasks that are essential to athletic training (2010). The results from this study are used for development and content validity of the BOC examination, the national certification exam for athletic trainers (2010). To prepare for this exam, the National Athletic Trainers' Association (NATA) developed a list of competencies required for an entry-level athletic trainer to carry out these tasks (2011). These competencies, known as the Athletic Training Education Competencies, serve as a guideline for education programs, ensuring that all entry-level athletic trainers possess the same baseline knowledge (NATA, 2011).

The role delineation study breaks down athletic training services into five domains: (a) injury/illness prevention and wellness protection, (b) clinical evaluation and diagnosis, (c) immediate and emergency care, (d) treatment and rehabilitation, and (e) organizational and professional health and well-being (BOC, 2010). In short, the role of an athletic trainer starts before an injury occurs, and continues through rehabilitation, and even after return-to-play (Unruh, Unruh, Moorman, & Seshadri, 2005).

Injury/illness prevention and wellness protection is a catchall phrase used to describe the responsibility of keeping athletes active by minimizing the risk of participation (BOC, 2010). Athletic trainers are tasked with educating not only participants, but coaches, parents, school administrators, and other members of the health care team. In order to achieve this, an appropriate knowledge base is needed in areas such as behavioral risks, catastrophic risks, biomechanical risks, and environmental risks (BOC, 2010). Knowledge in these areas is then used to perform pre-participation screenings, fit personal protective equipment, apply taping and bracing, maintain or improve physical conditioning, and promote a healthy lifestyle (BOC, 2010).

Clinical evaluation and diagnosis is the second domain. Athletic trainers must have the ability to conduct injury evaluations and determine a diagnosis. Without strong evaluation skills, athletic trainers will be unable to effectively treat injuries (NATA, 2011). Evaluation and diagnosis skills include obtaining a history through interview, observation, reviewing records, palpating, and using appropriate testing methods. These methods can include range of motion, manual muscle testing, and special tests (BOC, 2010). Athletic trainers then have to accurately interpret findings, and make the

appropriate diagnosis. Furthermore, knowledge of the injury is essential to educating individuals necessary as well as determining the treatment course (BOC, 2010).

The immediate and emergency care domain falls under the acute care of injury and illness competency. Due to the nature of the profession, athletic trainers may be present during an emergency, and are generally the first to respond (NATA, 2011). This requires that the athletic trainer be skilled at alleviating life-threatening and other emergency conditions, including maintaining certification in emergency cardiac care (BOC, 2010). The ability to transfer care when a situation goes beyond the scope of practice for an athletic trainer, as well as implementation of care strategies, such as emergency action plans and first aid, is also a task that an athletic trainer must be able to carry out (BOC, 2010).

The fourth domain is treatment and rehabilitation. The ability to utilize appropriate treatment and rehabilitation techniques applies to therapeutic exercise, therapeutic modalities, and bracing (BOC 2010). These various therapeutic interventions, when chosen and administered properly, are designed to return the athlete to optimal function (NATA, 2011). Duncan and Wright (1992) showed that rehabilitation and reconditioning was not only one of the more important competencies, but certified athletic trainers also had high performance scores in this area. It is also important for the athletic trainer to be knowledgeable in general medical and psychological injury/illness. Due to the nature of the profession, athletic trainers are often in the position to apply basic counseling skills, and psychological principles to promote recovery (Cramer, Roh, & Perna, 2000). They need to be able to assess, treat, and refer both psychological and general medical illness to the appropriate specialist if necessary (BOC, 2010).

In order for athletic trainers to be able to implement any of the above knowledge and skills properly, a level of organizational and professional health and well-being must exist. The fifth domain is built on the understanding of: "(1) approved organization and professional practices, standards, and guidelines; (2) federal statutes; and (3) state statutes which apply to the practice and/or organization and administration of athletic training" (BOC, 2010, p. 69). This includes business functions, management, documentation, and an understanding of the practice acts, as well as having a support/referral process for unhealthy lifestyle behaviors (BOC, 2010). Hazelbaker (2013) found that the number of athletic trainers working in management positions has significantly increased, likely due to the leadership and management education that is incorporated into athletic training education programs.

Along with the knowledge needed for each of the five domains, certified athletic trainers must also have certain personal characteristics to be successful (Kahanov & Andrews, 2001). Education alone does not guarantee success (Raab, Wolfe, Could, & Piland, 2011). Across all of the various employment settings, self-confidence, maturity, and interpersonal skills had the least amount of variability and can be considered important characteristics. Technical skills had the sixth lowest variability (Kahanov & Andrews, 2011).

Raab et al. (2011) found that care, communication, commitment, integrity, and knowledge are five constructs linked with being a quality certified athletic trainer. The relationships that athletic trainers build with athletes are essential to the care of injury (Unruh, 1998). A strong foundation in these constructs allows the athletic trainer to develop relationships and provide better care for athletes (Raab et al., 2011).

Relationship between Coaches and Athletic Trainers

Athletic trainers and coaches are both members of the sports medicine team. Communication between the two is an integral part of both professions. Each of the five domains outlined in the role delineation study (BOC, 2010), which breaks down the responsibilities of athletic trainers, have some aspect of communication involved. Specifically, the third domain states that care of an athlete should be coordinated through appropriate communication with relevant individuals, coaching staff included (BOC, 2010). Coaches have a significant amount of interaction with the athletic trainer, regardless of the level of competition, when it comes to the care of an athlete (Mensch et al., 2005). Communication is necessary between both professionals to maintain the safety, and promote the recovery of the athlete (Adams et al., 2014). However, research on the relationship between athletic training staff and coaching staff is lacking.

The limited research on the relationship between coaches and athletic trainers states that communication is crucial. Communication is vital to providing stable and effective care for the athlete (Adams et al., 2014). Education of both the student-athlete and the coach regarding injuries and injury prevention can help prevent future harm (Adams et al., 2014).

Athletic trainers are in a unique position that allows for significant interaction with athletes given the nature of the profession. When athletes are injured, they spend time before, during, and after practice working with athletic training staff. Due to the significant amount of time spent together, the two can develop a more trusting relationship. Athletic trainers are viewed as nonthreatening by athletes, and thus athletes are more comfortable discussing injury specifics with them rather than a coach (Pitney,

Ilsley, & Rintala, 2002). By providing this information to coaches, athletic trainers can help athletes and coaches communicate more efficiently (Hayden & Lynch, 2011).

Regular communication between coaches and athletic trainers regarding the status level of athletes occurred even when athletic trainers were not on-site (Podlog & Eklund, 2007). It was also noted that coaches preferred having direct contact with athletic trainers, such as having one available during practices (Mensch et al., 2005). This communication was considered important because athletes are often very eager to return to play and may only share part of the information about their participation status to coaching staff (Podlog & Eklund, 2007).

Consistent within the literature, it was noted that coaches wanted a level of trust with the athletic trainers assigned to their team, especially when making return to play decisions (Podlog & Eklund, 2007). Athletic trainers should be able to provide coaches with necessary information to have realistic performance expectations for their athletes (Hayden & Lynch, 2011). Specifically, knowledge of limitations and capabilities is important to coaches so that athletes could stay as active as possible (Podlog & Eklund, 2007). Coaches recognized that individual differences played an important role in the progression (Podlog & Eklund, 2007), and that athletic trainers may have good insight into those differences (Hayden & Lynch, 2011).

Disagreements between coaching staff and athletic trainers are inevitable. Typically this occurs during the return to play process. Coaches do not always agree with athletic training staff on how conservative (or aggressive) the individual is being progressed back to full participation (Podlog & Eklund, 2007). Though the overall relationship is generally perceived as good, coaches sometimes thought that athletic

trainers were not specific enough in communicating restrictions or progressions for athletes (Podlog, & Eklund, 2007).

Once an athletic trainer is hired, his or her success can be affected by the preconceived expectations of athletes, administrators, and more importantly, coaches. Each coach has his/her own perception of what it is to be an athletic trainer, as well as expectations for the athletic trainer assigned to his/her team. These perceptions, whether positive or negative, have developed from previous experiences as both a player and coach at various levels of competition (Mensch et al., 2005). These experiences may or may not be relevant, however they still affect the expectations and perceptions of athletic trainers.

Mensch et al. (2005) interviewed high school coaches and athletic trainers about their relationship with one another. Of the 20 coaches questioned, all stated that having a good, working relationship with their respective athletic trainer was important. The ten athletic trainers interviewed stated that they had a professional relationship with the coaches with whom they worked. Nine of the ten athletic trainers stated that coaches facilitated their ability to work (Mensch et al., 2005).

Adams et al. (2014) administered a seven-item 10-point Likert survey (with 1 meaning "Not" and 10 meaning "Very") to high school coaches. Each was asked to rate the level of professional relationship between him/herself and the respective athletic trainer. Attributes that were measured were: cooperative, professional, helpful, honest, respectful, informative, and communicating. The median scores and 75th percentile for all seven attributes was 10. In the 25th percentile, the lowest reported score was 8.75 in

communicating. Coaches rated their relationships with athletic trainers very high in all aspects surveyed (Adams et al., 2014).

Overall, coaches indicated that they trusted the decision-making ability of the athletic training staff (Podlog & Eklund, 2007). The relationship between coaches and athletic trainers is honest, respectful, and professional (Adams et al., 2014). Furthermore, coaches and athletic trainers have a great deal of cooperation when it comes to the health and playing status of the athlete (Adams et al., 2014).

Satisfaction with Athletic Training Services

The National Collegiate Athletic Association's Injury Surveillance System (ISS) has been collecting injury and exposure data from 16 collegiate sports since 1988 (Hootman, Dick, & Agel, 2007). For the data collection periods from 1988-1989 through 2003-2004, a total of 182,000 injuries and over one million exposures were logged in the ISS. Throughout the 16 years, the sample was collected and since, there have been many changes to intercollegiate athletics including an increase in the number of practices and games. Along with this increase in athlete exposure, there has also been an increase in the number of certified athletic trainers working in the collegiate setting (Hootman et al., 2007), all of which leads to athletes spending more time in the athletic training room. If an individual is not satisfied with the treatment that he/she is receiving from athletic training staff, the likelihood of him/her returning decreases (Unruh, 1998).

Functional outcomes have been used as a measurement of quality care in athletic training since the late 1990s. The perspective of a patient is essential to the assessment and eventual improvement of care provided (Albohm & Wilkerson, 1999). The effectiveness of care provided by athletic trainers to patients was measured using a

health-related quality of life survey by Albohm and Wilkerson (1999). This survey was given to both the patient and the athletic trainer, and was filled out pre- and post-treatment. Results showed that the patients' and athletic trainers' had consistent assessments of both pre- and post-treatment status. Patients showed a high degree of satisfaction with treatments provided by athletic trainers (Albohm & Wilkerson, 1999).

In a study by Unruh (1998), athlete perception was used as a measurement of athlete satisfaction. Female athletes had lower perception scores than male athletes in regards to their respective athletic trainers. Individuals in high profile sports (e.g., football, baseball, and men's and women's basketball) had the highest mean perception scores when compared to those in low profile sports (e.g., track, volleyball, swimming, baseball). NCAA division had no significant differences on perception scores (Unruh, 1998).

Subsequent research by Unruh et al. (2005), looked at the impact of the difference between sexes, level of competition, and high and low profile sports on satisfaction with athletic training services. Results showed that NCAA division was not a significant predictor of athlete satisfaction. Individuals in high profile sports had higher satisfaction ratings than those in low profile sports. However, unlike the previous literature (Unruh, 1998), female athletes had higher satisfaction scores than male athletes (Unruh et al., 2005).

Regardless of the setting, athletic trainers typically receive high satisfaction scores from the individuals who are receiving treatment. Individuals treated in clinics, high schools, colleges, and industrial settings (n = 5,238) all had consistent positive scores in a study by Campbell (n.d.). Out of a 5-point scale, with 0 being the lowest and 4

being the highest, satisfaction with certified athletic trainers was rated at a 3.89, while satisfaction with the treatments that they provided was rated a 3.87. Mean overall status of the individuals increased from 2.41 prior to treatment to 3.57 post-treatment (Campbell, n.d.).

The only known previous research on coaches' satisfaction with athletic training services was completed at a Division I Midwestern institution (Beer, 2004). A 40-item survey was developed by the researcher to assess four different satisfaction categories: professionalism, communication, knowledge/ability, and accessibility. Head coaches, assistant coaches, graduate assistant coaches, and volunteer coaches were surveyed (Beer, 2004).

Of the coaches surveyed, 88.9% reported that they would not choose to change their certified athletic trainer if given the opportunity. The most common reasons reported were knowledge and professionalism (Beer, 2004). Of the 11.1% of coaches that reported they would change their certified athletic trainer, the most common reasons noted were availability and knowledge (Beer, 2004).

Categories were considered satisfactory if at least 85% of respondents responded as satisfied or very satisfied. Overall, the coaching staff was satisfied with professionalism, communication, and knowledge/ability (Beer, 2004). Accessibility was rated the most unsatisfactory, with only 66.7% of coaches reporting being either satisfied or very satisfied with accessibility during practice times. This finding was attributed to the institution having a limited number of certified athletic trainers. It was noted that this can contribute to the reason why some of the satisfaction areas had lower satisfaction scores than others (Beer, 2004).

Summary of Research

Athletic trainers are allied health care professionals that work in various employment settings. All certified athletic trainers demonstrate entry-level skills outlined in the Board of Certification's role delineation study (2010). Along with the knowledge required for each of the five domains, athletic trainers have certain personal characteristics that make them successful (Kanahov & Andrews, 2001).

Coaches and athletic trainers have respectful and professional relationships with each other (Adams et al., 2014). Communication between the two is significant, especially regarding the status level of injured athletes. Cooperation is also necessary throughout the season, and especially during the return to play progression (Podlog & Eklund, 2007).

Overall, satisfaction with athletic trainers is very high. Athletes in both Division I and Division II reported high satisfaction with athletic trainers (Unruh et al., 2005). Beer (2004) found that Division I coaches were very satisfied with athletic training services; however, accessibility of the athletic trainer was rated lowest.

The research on coaches' satisfaction with athletic training services at each of the National Collegiate Athletic Association divisions remains unexplored. The present study aims to better the understanding of this, which can improve the relationship between coaches and athletic trainers and the outlook on the profession of athletic training.

CHAPTER 3

Methods

The purpose of this study was to determine the level of satisfaction of NCAA Division I, II, and III head coaches report with athletic training services. This chapter will discuss participants, instrumentation, procedures, and data analysis.

Participants

Participants were selected based on their status as National Collegiate Athletic Association (NCAA) head coaches. Head coaches from central New York Division I, II, and III schools were chosen to allow for comparison across the three NCAA divisions. A convenience sample of 40 head coaches were surveyed (28 males and 16 females) from Division I (*n = 16*; 12 male; 4 female), II (*n = 11*; 7 male; 4 female), and III (*n = 13*; 9 male; 4 female) schools. A total of 40 teams (16 male; 20 female; 4 both) were surveyed. The total possible response rate was 56 coaches.

Instrumentation

Informed Consent

An informed consent (Appendix A) was distributed and signed prior to completion of the survey. Participants were notified that they could withdraw from the study at any point. The informed consent also contained information regarding the purpose of the study, the expected length of the study, risks and benefits, IRB approval information, and contact information for the researcher.

Survey

The instrument (Appendix B) used in the current investigation was originally developed and used by Beer (2004) in a previous study. It was modified slightly to fit the

current research question, and included changes to demographic questions, and rewording of satisfaction statements. This was done to ensure that responses were accurate and consistent with the research question.

The questionnaire consisted of 45 items. The first eight were demographic questions such as gender, gender of team coached, and NCAA division. The next 34 questions were statements delineated into four sections to reflect the different areas of satisfaction: (a) professionalism; (b) communication; (c) knowledge/ability; and (d) accessibility. These statements were based on a 4-point Likert scale, with the following response options: 4 = Very satisfied, 3 = Satisfied, 2 = Somewhat satisfied, 1 = Not satisfied, and N/O or No opportunity to observe. The remaining questions asked if coaches would request a different athletic trainer and why. If a coach indicated that he/she would request a different athletic trainer, they were asked to provide an explanation. Finally, space was provided for any additional comments or suggestions.

Procedures

After approval from the Institutional Review Board at SUNY-Cortland, the Athletic Directors at each institution were contacted for permission to survey the head coaches. The researcher attended a coaches meeting previously agreed upon with the Athletic Director of the institutions. At that time, the survey packet was distributed to each head coach for completion. The survey packet contained the informed consent document and the survey. Completion of the survey took approximately 5-10 minutes. Participants were informed that all responses would be kept confidential. The researcher was available for questioning during this time and upon completion collected the packets.

Approximately one week later an email using addresses listed on the athletic department websites was sent to participants thanking them.

Data Analysis

Descriptive statistics, including means and standard deviations, of the age of the coaches, number of years coached, each of the satisfaction categories and the total satisfaction for each division were calculated. Overall satisfaction was computed by adding each of the satisfaction category scores. To examine the differences in overall satisfaction among the three NCAA divisions, a 3 (NCAA Division: I, II, III) by 1 (Overall Satisfaction score) analysis of variance was computed. A 3 (NCAA Division: I, II, III) by 4 (Satisfaction category: professionalism, communication, knowledge/ability, and accessibility) analysis of variance was also computed to examine differences across the different satisfaction categories across divisions. The level of significance for all analyses was set at $\alpha \leq .05$ to test the acceptability of the hypotheses. If significance was found, a Tukey post-hoc test was computed to determine the source of the difference. Effect sizes for significant findings were computed as $d = Mi\text{-}Mj/SD_{pooled}$.

Additional analyses were run to examine the effects of different factors on satisfaction. Overall satisfactions means, and the means from each of the four satisfaction categories (professionalism, communication, knowledge/ability, accessibility) were compared in terms of whether the coach had a certified athletic trainer assigned to their team or not, using a one-way analysis of variance. Mean satisfaction scores of coaches with a certified athletic trainer assigned to them were compared in terms of whether the athletic trainer was a full time staff member or a graduate assistant using a one-way analysis of variance. Mean satisfaction scores of coaches of male teams and coaches of

female teams were compared using a one-way analysis of variance. Overall satisfaction means and the means from the four satisfaction categories were compared for male and female coaches using a one-way analysis of variance, and for coaches who had a male certified athletic trainer and those who had a female certified athletic trainer. A level of significance was set at .05 for all analyses. If significance was found, a Tukey post-hoc was computed to determine the source of the differences. Effect sizes for significant findings were computed as $d = Mi\text{-}Mj/SD_{pooled}$.

CHAPTER 4

Results

Demographic Results

Ten Division I teams (equestrian, fencing, polo, men's lightweight and heavyweight rowing, women's rowing, women's sailing, spring football, and men's and women's squash) were excluded from the analysis due to the inability to compare the sports across all three NCAA divisions. A total of 40 out of 56 head coaches completed the survey, for a response rate of 74%. Division I coaches made up 40% (*n = 16*), Division II coaches made up 27.5% (*n = 11*), and Division III made up 32.5% (*n = 13*) of the sample. Of the head coaches surveyed, 28 were male (70%), and 12 were female (30%). Sixteen (40%) coached a male team, while 20 (50%) coached a female team; the remaining 4 (10%) coached both a male and female team. Table 1 reports the mean ± standard deviation for age of and number of years as head coach at each institution.

Table 1

Mean Age and Number of Years as Head Coach for Each Institution

Division	N	Age ± SD (yrs)	Years Coaching ± SD
1	16	50.13±10.39	11.56±8.76
2	11	45.91±10.36	7.68±8.23
3	13	44.15±10.80	11.62±7.69

Thirty-six (90%) of the coaches had a Certified Athletic Trainer assigned to their team. Of these coaches, 26 stated that their athletic trainer was a full-time staff member, compared to 10 that stated they were assigned a Graduate Assistant athletic trainer. The majority of the Certified Athletic Trainers were female (*n = 19*) compared to males (*n = 17*).

Overall Satisfaction by NCAA Division

The overall satisfaction means of head coaches from each of the NCAA divisions were compared using a one-way ANOVA with significance set at $\alpha < .05$. Table 2 shows the mean overall satisfaction scores for each division. The differences in mean satisfaction scores among the three divisions were not statistically significant (*F(2,37) = .108, p = .898*).

Satisfaction Category by NCAA Division

The means of each of the four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) from each of the NCAA divisions were compared using separate one-way ANOVAs (one ANOVA per satisfaction category) with significance set at $\alpha < .05$. Table 2 shows the mean satisfaction scores for each category. There were no significant differences in mean professionalism (*F(2,37) = .060, p = .942*), communication (*F(2,37) = .105, p = .901*), knowledge/ability (*F(2,37) = .651, p = .527*), or accessibility (*F(2,37) = .991, p = .381*) scores among each of the three divisions.

Table 2

Mean Satisfaction Scores for Overall, Professionalism, Communication, Knowledge/Ability, and Accessibility

Division	Overall±SD	Prof±SD	Comm±SD	Know±SD	Access±SD
1	121.75±18.21	50.44±8.17	25.31±3.55	28.38±4.90	17.63±3.32
2	118.27±20.44	51.18±7.01	25.09±4.01	27.00±6.08	15.00±7.03
3	120.23±19.10	50.00±9.69	25.77±3.75	29.23±3.17	15.23±6.23

Additional analyses were carried out to determine if any differences existed according to (a) the assignment of the certified athletic trainer, (b) status of the certified athletic trainer, (c) team gender, (d) certified athletic trainer gender, and (e) coach gender.

Overall and Categories of Satisfaction and Certified Athletic Trainer Assignment

Overall satisfaction means, and the means from the four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) were compared in terms of whether the coach had a certified athletic trainer assigned to their team or not, using a one-way ANOVA with significance set at $\alpha < .05$. Coaches with a certified athletic trainer assigned to their team had significantly higher communication scores (*n = 36, M = 25.81, SD = 3.39*) than those who did not have an athletic trainer assigned to their team (*n = 4, M = 21.75, SD = 4.50*); (*F(1,38) = 4.866, p = .034*). The effect size (*ES = 1.1401*) confirms a large meaningful difference in communication between teams assigned a certified athletic trainer compared to teams not assigned a certified athletic trainer.

Overall and Categories of Satisfaction and Certified Athletic Trainer Status

Mean overall satisfaction scores and means from the four satisfaction categories of coaches with a certified athletic trainer assigned to their team were further broken down into two categories: those who have a full-time athletic trainer, and those who have a graduate assistant athletic trainer assigned to their team. These scores were compared using a one-way ANOVA with significance set at $\alpha < .05$. Coaches with a full-time athletic trainer (*n = 26, M = 29.69, SD = 4.09*) reported significantly higher scores for satisfaction with knowledge/ability than those with a graduate assistant (*n = 10, M = 24.60, SD = 5.08*); (*F(1,34) = 9.797, p = .004*). The effect size (*ES = .6908*) confirms a

moderate meaningful difference in knowledge/ability between teams assigned a full-time athletic trainer and those assigned a graduate assistant athletic trainer.

Overall and Categories of Satisfaction and Team Gender

Mean overall satisfaction scores and means from the four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) were compared in terms of whether the individual coached a male team or coached a female team, using a one-way ANOVA. A level of significance was set at $\alpha < .05$. Coaches of male teams (*n = 16, M = 54.25, SD = 3.32*) had significantly higher professionalism scores than coaches of female teams (*n = 20, M = 49.50, SD = 8.48*); (*F(1,34) = 4.451, p* = .042). The effect size (*ES = .6920*) confirms a moderate meaningful difference in professionalism between coaches of male and female teams. Differences in overall satisfaction was also statistically significant (*F(1,34) = 4.527, p = .041*) with coaches of male teams reporting higher scores (*M = 128.81, SD = 10.03*) than coaches of female teams (*M = 117.95, SD = 18.31*). The effect size (*ES = .6976*) confirms a moderate meaningful difference in overall satisfaction between male and female teams.

Overall and Categories of Satisfaction and Certified Athletic Trainer Gender

Overall satisfaction means and means from the four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) for coaches who have a male certified athletic trainer and those who have a female certified athletic trainer assigned to their team were compared using a one-way ANOVA with a level of significance set at $\alpha < .05$. There were no significant differences ($p \geq 0.05$) between the groups. These results are presented in Appendix C.

Overall and Categories of Satisfaction and Coach Gender

Overall satisfaction means and means from the four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) of male and female coaches were compared using a one-way ANOVA with a level of significance set at $\alpha < .05$. As presented in Appendix D, there were no significant differences ($p \geq 0.05$).

CHAPTER 5

Discussion

The purpose of this study was to determine the satisfaction of NCAA head coaches with athletic training services. Overall satisfaction and four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) were examined. The study was intended to highlight areas of proficiency, and more importantly, areas that could use improvement. Information gained from the present study could provide athletic trainers with feedback needed to improve relationships with head coaches. Ultimately, this could lead to better care of the student-athlete. In essence, this study was designed to determine what aspects of service athletic trainers need to improve on based upon head coach feedback.

The results indicated no significant differences among NCAA divisions for overall satisfaction or for each of the four satisfaction categories. Findings of this research were inconsistent with the first stated hypothesis, that Division I coaches would rate overall services higher than Division II, with Division III coaches rating overall services the lowest. Findings were also inconsistent with predictions that Division I would have higher satisfaction scores in communication and accessibility compared to Divisions II and III. However, findings were consistent with predictions that there would be no differences in knowledge/ability and professionalism scores across the three divisions.

The only known previous research on coaches' satisfaction with athletic training services reported having high satisfaction scores at a Division I Midwestern university (Beer, 2004). The results in the current study support this premise that athletic trainers

perform at a high level and provide satisfactory athletic training services in the eyes of the coaching staff. The current research, however, improves upon the Beer (2004) study in that additional NCAA divisions were investigated in an attempt to determine differences in athletic training services.

Previous research has also noted that coaches and athletic trainers have respectful and professional relationships with each other (Adams et al., 2014). The current findings support this notion, as results indicated communication and professionalism scores across all three divisions.

These findings indicate that athletic trainers are providing a high quality of care and service. The lack of significant differences between divisions can be interpreted that this high level of care is consistent despite the level of competition of those receiving the service. Being that all certified athletic trainers have the same baseline knowledge (BOC, 2010), it should be expected that these scores would be the same regardless of NCAA Division. Furthermore, it would be unethical for athletic trainers to provide different levels of service to different populations.

Results showed that head coaches who had a certified athletic trainer assigned to their team were more satisfied with communication than those who did not. This supports past research by Mensch et al. (2005), who found that coaches preferred having direct contact with athletic trainers. In situations where there are not enough certified athletic trainers for every team, communication suffers. Coaches may have to seek out updates regarding injuries, or ask student-athletes for information, which may not be reliable. Dissatisfaction with this was anecdotally noted in head coaches' comments. Examples of comments are as follows: "at times there is a major communication flaw and disconnect,"

and "when athletes see other people the information can be lost or not consistent, therefore not communicated." As previously noted by Beer (2004), this can be attributed to the limited amount of certified athletic trainers at an institution.

Scores for satisfaction with knowledge/ability were significantly higher for head coaches with a full-time athletic trainer than those with a graduate assistant athletic trainer. This seems commonsensical. Full-time staff members generally have much more experience than graduate assistants. These experiences inevitably lead to a greater expansion to the baseline knowledge.

This information seems to support the current debate of transitioning athletic training to a professional master's degree. Once a master's degree is the requirement, many graduate assistant positions will dissolve, thus leading to more full-time athletic trainers. However, the experience of these new full-time athletic trainers will now be equal to those who would have been graduate assistants. If the difference in satisfaction scores is due to the greater experience of full-time staff, transitioning to the professional master's degree could potentially have no effect, or even negatively effect satisfaction since initially these individuals will have less experience.

Coaches of male teams reported higher overall satisfaction and professionalism scores than coaches of female teams. This may be due to the fact that male teams are generally higher risk than female teams (Hootman et al., 2007). Higher risk sports such as football, men's ice hockey, and wrestling are a greater priority when it comes to athletic training coverage. Thus, male teams may have more exposure to athletic training than their female counterparts, possibly leading to greater satisfaction.

It is important to note that the length of time that a head coach and certified athletic trainer have been working together will affect satisfaction scores. Once a relationship has been established, both parties will be better equipped to communicate and work together. It would be interesting to see how time spent working together would affect satisfaction scores.

Athletic training staffs should strive to provide the best quality of care at all times. Based on the current research, head coaches' satisfaction is high, but there is always room for improvement. With consistent continuing education and evidence-based practice, athletic trainers are continuously building upon their skill set. Improvements in relationships with head coaches are something that is rarely considered. The current research is a start to this process, but more work needs to be done.

Limitations

In light of the findings of this study, certain issues need to be considered in evaluating the results and merit of the investigation. The role of athletics in developing the student-athlete is different at different institutions across all three athletic divisions. It may be that responses would be different had an institution that views athletics differently been selected. Likewise, the Division III institution had an Athletic Training Education Program. This resulted in greater numbers of certified athletic trainers who had teaching responsibilities on top of clinical duties. Finally, the survey used in this experiment has not been tested for validity or reliability. Due to the novelty of the research topic, this was something that could not be avoided.

Future Research

Given the lack of research on this topic, there is considerable room for future investigations. One such possibility is to expand on the current study by including more institutions over a greater geographical area. The current research was a good starting point, but was very limited. Moreover, include qualitative research to further analyze coaches' satisfaction. It might be interesting to see if themes emerge that could reshape clinical expectancies of athletic trainers. Also, investigating athletic trainers' satisfaction with coaching staffs would be an interesting addition to the current research. Given that this is an important dynamic in the care of the student-athlete, it makes sense to understand the perspective of the head coach (or other coaching staff) towards the athletic training staff. In addition, it is suggested to investigate the effects of head coach and certified athletic trainer time spent working together on satisfaction scores. Finally, looking at satisfaction scores for schools with versus without an athletic training education program might shed light on the quality of training and services provided by such allied health professionals.

Summary of Research

The purpose of this study was to determine the satisfaction of NCAA head coaches with athletic training services. Overall satisfaction and four satisfaction categories (professionalism, communication, knowledge/ability, and accessibility) were examined. There were no significant differences among divisions for overall satisfaction or for the four satisfaction categories. Head coaches who had a certified athletic trainer assigned to their team were more satisfied with communication that those who did not. Head coaches who had a full-time athletic trainer were more satisfied with knowledge/ability than those who had a graduate assistant athletic trainer. Lastly, coaches

of male teams were more satisfied overall and with professionalism, than coaches of female teams. These findings indicate that, regardless of competitive level, athletic trainers are providing a high quality of service. The results offer a basis for evaluating best practices among athletic trainers and identify factors that can be addressed in athletic training education programs which may better facilitate the head coach – athletic trainer relationship.

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APPENDIX A

Informed Consent
State University of New York College at Cortland

The research that you have been asked to participate in is being conducted by Whitney Larson of the Kinesiology Department at SUNY Cortland. We request your informed consent to be a participant in the project described below. *Please feel free to ask about the project, its procedures, or objectives.*

Information and Procedures of This Research Study:

The purpose of this study is to investigate head coaches satisfaction with athletic training services. Your satisfaction will be measured using a 44 item questionnaire.

Before agreeing to participate you should know that:

A. Freedom to withdraw

Participation in this research is voluntary, and there is no penalty for refusal or withdrawal. You are free to withdraw consent at any time without penalty. Even if you begin answering questions and realize for any reason that you do not want to continue, you are free to withdraw from the study. Additionally, you may ask the researcher to destroy any responses you may have given.

B. Protection of Participants' Responses

Your responses are strictly confidential. Only the principle investigator and the faculty committee will have access to your responses. Your name will not be connected with your responses**.**

C. Length of Participation

The study should take approximately 10 minutes.

D. Risks Expected

The potential risk associated with the research is limited to confidentiality risk. To ensure confidentiality and minimize this risk, names will not be used and only the lead investigator and faculty committee will have access to the completed surveys. Surveys will be transported by the lead investigator immediately after data collection, and will be stored in a locked office on the campus of SUNY Cortland.

F. Benefits expected

Participation in this study can allow for a better understanding of head coaches' satisfaction with athletic training services. This can allow for an improvement in the relationship between coaches and athletic trainers, and possibly an improvement in the perception of the field of athletic training.

G. Contact Information
If you have any questions concerning the purpose or results of this study, you may contact Whitney Larson at whitney.larson@cortland.edu

For questions about research or your rights as a participant, contact Amy Henderson-Harr, Office of Sponsored Programs, SUNY Cortland, at (607) 753-2511.

I _____ have read the description of the project for which this consent is requested, understand my rights, and I hereby consent to participate in this study.

_____ _____
Signature Date

_____ _____
Researcher's Signature Date

APPENDIX B

Survey

The purpose of this study is to determine the level of satisfaction head coaches in the collegiate setting have with the professionalism and services provided by their current athletic training staff.

Please answer each question honestly. Only evaluate the certified athletic trainer; do not include student athletic trainers or team physicians. This survey will take approximately 5-10 minutes to complete. All responses will remain confidential.

1. What sport(s) do you currently serve as head coach for at your institution?

   _____

2. Number of years as a head coach at your institution?

   _____

3. What is your age?

   _____

4. Do you coach a:
   a. Male team
   b. Female team
   c. Both

5. Are you a:
   a. Male
   b. Female

6. Do you have a Certified Athletic Trainer assigned to your team? (If no or unsure, skip questions 7 & 8)
   a. Yes
   b. No
   c. Unsure

7. Your Certified Athletic Trainer is a:
    a. Full-time staff member
    b. Graduate Assistant
    c. Intern
    d. Unsure
    e. Other _____

8. Your Certified Athletic Trainer is a:
    a. Male
    b. Female

Please respond to the following statements by indicating the level of satisfaction according to the following: 4 = Very Satisfied 3 = Satisfied 2 = Somewhat Satisfied 1 = Not Satisfied N/O = No Opportunity to Observe					
Professionalism					
1. The certified athletic trainer is punctual during team activities.	4	3	2	1	N/O
2. The certified athletic trainer is professional on the court or field.	4	3	2	1	N/O
3. The certified athletic trainer is professional in the athletic training room.	4	3	2	1	N/O
4. The certified athletic trainer is professional at away competitions.	4	3	2	1	N/O
5. The certified athletic trainer is professional during game day activities (pre-game meal, warm-ups, sideline behavior, etc.).	4	3	2	1	N/O
6. The certified athletic trainer refrains from unnecessary language or behavior (swearing, name-calling, or profane jesters).	4	3	2	1	N/O
7. The certified athletic trainer's physical appearance (appropriate dress, hygiene, etc.).	4	3	2	1	N/O
8. The certified athletic trainer is professional around student athletes' parents.	4	3	2	1	N/O
9. The certified athletic trainer maintains a professional relationship with student athletes.	4	3	2	1	N/O
10. The certified athletic trainer maintains a professional relationship with the other coaches/staff members.	4	3	2	1	N/O
11. The certified athletic trainer is respectful of coaches.	4	3	2	1	N/O
12. The certified athletic trainer is respectful of student-athletes.	4	3	2	1	N/O
13. The certified athletic trainer has an acceptable rapport with the coaches.	4	3	2	1	N/O
14. The certified athletic trainer has an acceptable rapport with the student-athletes.	4	3	2	1	N/O
Communication					
15. The certified athletic trainer is easy to speak with (clarity of voice, grammar, enunciation, etc.).	4	3	2	1	N/O

16. The certified athletic trainer is approachable at all times.	4	3	2	1	N/O
17. The certified athletic trainer is informative to the student athlete.	4	3	2	1	N/O
18. The certified athletic trainer is informative to the coach.	4	3	2	1	N/O
19. The certified athletic trainer is able to discuss injuries at various levels of understanding and knowledge capacity.	4	3	2	1	N/O
20. The certified athletic trainer informs the coach of the injured student athlete's progress in a timely fashion.	4	3	2	1	N/O
21. The conflict resolution methods between the coach and the certified athletic trainer are acceptable.	4	3	2	1	N/O
Knowledge/Ability					
22. The certified athletic trainer is knowledgeable on injuries, rehabilitation, and other medical inquiries.	4	3	2	1	N/O
23. The certified athletic trainer's experience level is appropriate or adequate.	4	3	2	1	N/O
24. The certified athletic trainer educates the student athlete and coaching staff on the role of the certified athletic trainer.	4	3	2	1	N/O
25. The certified athletic trainer refers the student athlete to higher medical assistance (team physicians or other medical personnel) in a time efficient manner.	4	3	2	1	N/O
26. The certified athletic trainer takes appropriate measures in preventing injuries (such as health screenings, or taping/bracing).	4	3	2	1	N/O
27. The certified athletic trainer demonstrates the ability to assess and recognize athletic related injuries or illnesses.	4	3	2	1	N/O
28. The certified athletic trainer demonstrates the ability to care for or respond to emergency situations.	4	3	2	1	N/O
29. The certified athletic trainer demonstrates the ability to rehabilitate the injured athlete.	4	3	2	1	N/O
Accessibility					
30. The certified athletic trainer's accessibility during team practice times.	4	3	2	1	N/O
31. The certified athletic trainer's accessibility during competition or events.	4	3	2	1	N/O

32. The certified athletic trainer's accessibility before team events (practice, weights, competitions, individual workouts, etc.).	4	3	2	1	N/O
33. The certified athletic trainer's accessibility after team events (practice, weights, competitions, individual workouts, etc.).	4	3	2	1	N/O
34. The certified athletic trainer's accessibility after posted athletic training room hours for emergencies.	4	3	2	1	N/O

35. If you had the option to change athletic trainers, would you?
    a. Yes (Please answer #36)
    b. No (Please answer #37)

36. If you answered yes to question #35, which of the following reasons apply? Please mark all responses that apply.
    a. Professionalism
    b. Accessibility/Availability
    c. Knowledge
    d. Rapport
    e. Approachability
    f. Other _____

37. If you answered no to question #35, which of the following reasons apply? Please mark all responses that apply.
    a. Professionalism
    b. Accessibility/Availability
    c. Knowledge
    d. Rapport
    e. Approachability
    f. Other _____

Please feel free to add any additional comments on the athletic training services provided in the space below.

APPENDIX C

One-way ANOVA on Head Coaches Satisfaction Scores of Male and Female Athletic Trainers

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	8.484	1	85.484	1.718	.199
	Within Groups	1692.155	34	49.769		
	Total	1777.639	35			
Comm. Total	Between Groups	.006	1	.066	.000	.983
	Within Groups	398.217	34	11.712		
	Total	398.222	35			
Know. Total	Between Groups	3.649	1	3.649	.149	.702
	Within Groups	833.573	34	24.517		
	Total	837.222	35			
Access. Total	Between Groups	68.734	1	68.734	2.225	.145
	Within Groups	1050.266	34	30.890		
	Total	1119.000	35			
Overall	Between Groups	381.065	1	381.065	1.234	.274
	Within Groups	10501.907	34	308.880		
	Total	10882.972	35			

p > .05

APPENDIX D

One-way ANOVA on Male and Female Head Coaches Satisfaction Scores

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	52.500	1	52.500	.775	.384
	Within Groups	2575.500	38	67.776		
	Total	2628.000	39			
Comm. Total	Between Groups	.005	1	.005	.000	.985
	Within Groups	521.595	38	13.726		
	Total	521.600	39			
Know. Total	Between Groups	10.296	1	10.296	.450	.506
	Within Groups	869.679	38	22.886		
	Total	879.975	39			
Access. Total	Between Groups	1.458	1	1.458	.047	.830
	Within Groups	1184.917	38	31.182		
	Total	1186.375	39			
Overall	Between Groups	84.233	1	84.233	.237	.629
	Within Groups	13522.167	38	355.846		
	Total	13606.400	39			

p > .05

APPENDIX E

One-way ANOVA on Division I, II, III Head Coaches Overall Satisfaction Scores

	SS	df	Mean Square	F	Sig
Between Groups	78.910	2	39.455	.108	.898
Within Groups	13527.490	37	365.608		
Total	13606.400	39			

p > .05

APPENDIX F

One-way ANOVA on Division I, II, III Head Coaches Satisfaction Category Scores

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	8.426	2	4.213	.060	.942
	Within Groups	2619.574	37	70.799		
	Total	2628.000	39			
Comm. Total	Between Groups	2.946	2	1.473	.105	.901
	Within Groups	518.654	37	14.018		
	Total	521.600	39			
Know. Total	Between Groups	29.917	2	14.959	.651	.527
	Within Groups	850.058	37	22.975		
	Total	879.975	39			
Access. Total	Between Groups	60.317	2	30.159	.991	.381
	Within Groups	1126.058	37	30.434		
	Total	1186.375	39			

p > .05

APPENDIX G

One-way ANOVA on Coaches Assigned a Full-Time ATC and Coaches Assigned a Graduate Assistant ATC

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	.154	1	.154	.003	.957
	Within Groups	1777.485	34	52.279		
	Total	1777.639	35			
Comm. Total	Between Groups	30.238	1	30.238	2.794	.104
	Within Groups	367.985	34	10.823		
	Total	398.222	35			
Know. Total	Between Groups	187.284	1	187.284	9.797	.004*
	Within Groups	649.938	34	19.116		
	Total	837.222	35			
Access. Total	Between Groups	10.400	1	10.400	.319	.576
	Within Groups	1108.600	34	32.606		
	Total	1119.000	35			
Overall	Between Groups	519.918	1	519.918	1.706	.200
	Within Groups	10363.054	34	304.796		
	Total	10882.972	35			

*$p \leq .05$

APPENDIX H

One-way ANOVA on Coaches Assigned an ATC and Coaches Not Assigned an ATC

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	146.944	1	146.944	2.251	.142
	Within Groups	2481.056	38	65.291		
	Total	2628.000	39			
Comm. Total	Between Groups	59.211	1	59.211	4.866	.034*
	Within Groups	462.389	38	12.168		
	Total	521.600	39			
Know. Total	Between Groups	4.669	1	4.669	.203	.655
	Within Groups	875.306	38	23.034		
	Total	879.975	39			
Access. Total	Between Groups	95.069	1	95.069	3.310	.077
	Within Groups	1091.306	38	28.719		
	Total	1186.375	39			
Overall	Between Groups	1006.678	1	1006.678	3.036	.090
	Within Groups	12599.722	38	331.572		
	Total	13606.400	39			

*$p \leq .05$

APPENDIX I

One-way ANOVA on Coaches of Male Teams and Coaches of Female Teams

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	200.556	1	200.556	4.451	.042*
	Within Groups	1532.000	34	45.059		
	Total	1732.556	35			
Comm. Total	Between Groups	5.689	1	5.689	.423	.520
	Within Groups	457.200	34	13.447		
	Total	462.889	35			
Know. Total	Between Groups	55.556	1	55.556	3.022	.091
	Within Groups	625.000	34	18.382		
	Total	680.556	35			
Access. Total	Between Groups	70.313	1	70.313	3.960	.055
	Within Groups	603.688	34	17.756		
	Total	674.000	35			
Overall	Between Groups	1048.835	1	1048.835	4.527	.041*
	Within Groups	7877.387	34	231.688		
	Total	8926.222	35			

*$p \leq .05$

APPENDIX J

One-way ANOVA on Coaches from Schools with an Athletic Training Education Program (ATEP) and Schools without an ATEP

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	8.426	2	4.213	.060	.942
	Within Groups	2619.574	37	70.799		
	Total	2628.000	39			
Comm. Total	Between Groups	2.946	2	1.476	.105	.901
	Within Groups	518.654	37	14.018		
	Total	521.600	39			
Know. Total	Between Groups	29.917	2	14.959	.651	.527
	Within Groups	850.058	37	22.975		
	Total	879.975	39			
Access. Total	Between Groups	60.317	2	30.159	.991	.381
	Within Groups	1126.058	37	30.434		
	Total	1186.375	39			
Overall	Between Groups	78.910	2	39.455	.108	.898
	Within Groups	13527.490	37	365.608		
	Total	13606.400	39			

p > .05

APPENDIX K

One-way ANOVA on Male Coaches of Male Teams, Female Coaches of Female Teams, and Male Coaches of Female Teams

		SS	df	Mean Square	F	Sig
Prof. Total	Between Groups	217.431	2	108.715	2.368	.109
	Within Groups	1515.125	33	45.913		
	Total	1732.556	35			
Comm. Total	Between Groups	7.097	2	3.549	.257	.775
	Within Groups	455.792	33	13.812		
	Total	462.889	35			
Know. Total	Between Groups	55.556	2	27.778	1.467	.245
	Within Groups	625.000	33	18.939		
	Total	680.556	35			
Access. Total	Between Groups	82.646	2	41.823	2.338	.112
	Within Groups	590.354	33	17.890		
	Total	674.354	35			
Overall	Between Groups	1049.368	2	524.684	2.198	.127
	Within Groups	7876.854	33	238.693		
	Total	8926.222	35			

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